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09/478,168	01/05/2000	Michael Meyer	34645-00488USPX	1323

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EXAMINER

BLOUNT, STEVEN

ART UNIT

PAPER NUMBER

2661

10

DATE MAILED: 06/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/478,168

Applicant(s)

Meyer et al

Examiner

R. LOUPT

Group Art Unit

2661

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☒ Responsive to communication(s) filed on 11/9/02
- ☐ This action is FINAL.
- ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-34 is/are pending in the application.
Of the above claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-34 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
 - ☒ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
 - ☐ received in Application No. (Series Code/Serial Number) _____
 - ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

*Certified copies not received: _____

Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 1, 3, 4
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other _____

Office Action Summary

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DETAILED ACTION

1. Applicant is reminded of the proper content of an abstract of the disclosure.

The abstract should not be longer than 150 words.

2. Claim 26 is objected to. Note the word "adjudgement" in line 2 of claim 26.

Claim Rejections - 35 U.S.C. § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1 - 34 are rejected under 35 U.S.C. 112 second paragraph for failing to particularly point out and distinctly claim the subject matter which the applicant regards as their invention. Claims 1 - 34 are generally indefinite with many 112 second paragraph problems throughout which the applicant must correct in the next office action. A few examples of these problems follow:

In claim 2, "comprises a time out mechanism after a data unit is sent" is indefinite.

In claim 8, line 5, the phrase "a judgement that the given data unit" is indefinite. Claim 26 is also indefinite (the use of a judgement of a judgement in the second to last line is confusing).

In claims 15 and 31, the examiner cannot find any antecedent basis for either a single round trip time measurement, or a plurality of round trip time measurements.

In claims 18 and 34, "the flow control" lacks antecedent basis, and "the response procedure not taken place" lacks antecedent basis as well, as does "the given data unit".

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Claim Rejections - 35 U.S.C. § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1 - 8 and 19 - 26 are rejected under 35 U.S.C. 103(a) as being obvious over applicants admitted prior art (hereinafter AAPA) in view of U.S. patent 6,493,316 to Chapman.

With regard to claim 1, AAPA teaches on pages 1 - 5 (especially 4, paragraphs 3 - 5) dividing segments of data into packets, the use of acknowledgments (page 2, par. 3) a data loss detection mechanism comprising searching for duplicate acknowledgments (see page 5, bottom of paragraph 2) and a timeout feature (see bottom of page 4) and a flow control procedure that utilizes multiple modes for adapting parameters associated with the data loss detection mechanism, wherein the window size associated with the sending of the data may be made larger or contracted, the timer setting may be changed or left the same, and the data may be decided to be retransmitted or not. See pages 4 - 5. AAPA does not, however, teach these data loss correction methods operating together. Chapman et al teaches these mechanisms operating together. See col 5, lines 5 - 20. Note especially the relationship taught in col 5, lines 7 - 8, where the relationship between the timer and the window is discussed.

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It would have been obvious to one of ordinary skill in the art at the time of the invention to have provided AAPA with the simultaneous use of timeout/window size changes/retransmission in response to messages indicative of data loss (but may also be associated simply with congestion), in light of the teachings of Chapman, in order to further optimize flow control of the system by preventing the aggravation of conditions associated with congestion when it appears instead that packets are being lost in the system for other reasons.

Claim (Cl) 2: see the rejection above for timeout discussion. Cl 3: sender monitor ACK's: see AAPA and col 5 lines 10+ of Chapman. Cl 4: again see AAPA and col 5 lines 10+ of Chapman. Cl 5: changing window size to make it larger after retransmission in response to duplicate acknowledgments is taught in col 7, lines 35+ of Chapman, and is also well known in the art. Cl 6: see the discussion of time-out above. Cl 7: see discussion of sliding windows above. Cl 8: lost packets are discussed in col 4, lines 18+ of Chapman. With regard to claims 19 - 26, it is noted that the apparatus limitations are all present in the method claims discussed above.

7. Claims 9 - 14 and 27 - 30 are rejected under 35 U.S.C. 103(a) as being obvious over applicants admitted prior art in view of U.S. patent 6,493,316 to Chapman as applied above, and further in view of U.S. patent 6,247,058 to Miller et al.

With regard to claims 9 - 10, AAPA/Chapman teach the invention as described above, but do not teach marking the units to distinguish an acknowledgment of an originally sent data unit from the acknowledgment of a retransmission of a data unit. Miller et al teaches distinguishing data units in a similar environment by time stamping them. See the abstract. It would have been

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obvious to one of ordinary skill in the art at the time of the invention to have provided AAPA/Chapman with a means for distinguishing sent data units from retransmitted data units, in light of the teachings of Miller et al, in order to allow the sender and receiver to process the packets more efficiently. With regard to claims 11 - 13, the time stamp discussed above is well known to be typically implemented with the use of varying bit patterns (cl 11) of one, and often more than one bits (cl 12 and cl 13). Cl 14: The fact that Chapman teaches sending a new (original) packet for each duplicate acknowledgment would make obvious acknowledging the retransmission of the new packet if it were not properly transmitted. With regard to claims 27 - 30, it is again noted that the apparatus limitations are all present in the method claims discussed above. See the rejection of claims 9 - 11 and 14.

8. Claims 15 - 18 and 31 - 34 are rejected under 35 U.S.C. 103(a) as being obvious over applicants admitted prior art in view of U.S. patent 6,493,316 to Chapman and U.S. patent 6,247,058 to Miller et al as applied above, and further in view of U.S. patent 6,118,765 to Phillips.

With respect to claim 15, AAPA/Chapman/Miller et al teach the invention as described above, but do not teach choosing the adaptive parameters based on time between retransmission and receipt of the first acknowledgment data unit. Phillips teaches (col 9, lines 1+) estimating RTT based on this value, and it is inherent that it is compared with the old RTT value since the old value is being replaced based on this new value. It is noted that Phillips teaches resending data until an acknowledgment is received in the same paragraph. It would have been obvious to

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one of ordinary skill in the art at the time of the invention to have provided AAPA/Chapman/Miller et al with a means for choosing the adaptive parameter based on time between retransmission and receipt of the first acknowledgment data unit, in light of the teachings of Phillips, in order to make the adaptive parameter more responsive to congestion conditions. With regard to claim 16, see the above, and note that one of ordinary skill in the art would find it obvious to fine tune the algorithm by choosing which adaptive parameter mode to use based upon particular values of the round trip time and time difference between retransmission and receipt of the first acknowledgement data. With regard to claim 17, see the rejection of claim 15, and note the use of a timer in Chapman in col 5, lines 5+. With regard to claim 18, note the use of the window flow procedure used in Chapman. With regard to claims 31 - 34, it is noted that the apparatus limitations are all present in the method claims discussed above.

9. Claims 1 and 19 are rejected under 35 U.S.C. 103(a) as being obvious over applicants admitted prior art (AAPA) in view of PCT publication WO 98/37670 to Ramakrishnan.

With regard to claims 1 and 19, AAPA teaches the invention as noted in claim 1 (see above), but does not teach two different modes for adapting a parameter which are adjusted to deal with the flow control. Ramakrishnan teaches an adaptive parameter (SACK) which is an acknowledgment which indicates which packets are in error. See page 2, lines 23+.

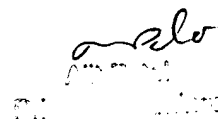
Ramakrishnan also teaches that the SACKS can be sent after a number of packets have been received, or after a timeout period, or after a combination of both. See page 8, lines 30 - 35. It


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would have been obvious, to one of ordinary skill in the art at the time of the invention, to have provided AAPA with a dual means for adjusting the parameter which is used for flow control, in light of the teachings of Ramakrishnan, in order to make the parameter more flexible in adapting to congested conditions.

Contact Information

10. Examiner Blount may be contacted at the Patent Office between the hours of 9:00 am to 5:30 P.M. Monday through Friday. His phone number is (703) 305-0319.



SB

5/27/03